

**CLAIMS**

1. A monitoring system comprising:

at least one camera installed on a vehicle and having a lateral visual field of substantially 180 degrees as a camera 5 range in the rear of the vehicle; and

an image processing unit for receiving, as an input, a camera image of said camera and generating, from said camera image, an image viewed from a virtual viewpoint to be displayed on a display device,

10 wherein said image processing unit has a mode for displaying a mirror image of an image having a lateral visual field of substantially 180 degrees in the rear of the vehicle.

2. A monitoring system comprising:

one or more cameras for capturing surrounding state of 15 a vehicle; and

an image processing unit for receiving, as an input, a camera image of said one or more cameras and generating, from said camera image, a synthesized image to be displayed on a display device,

20 wherein said image processing unit has a mode for displaying a synthesized image in which an enlargement/reduction ratio is relatively higher in a nearby area of the vehicle including a grounding portion of at least one tire of the vehicle than in a peripheral area of the 25 vehicle.

3. The monitoring system of Claim 2,  
wherein the enlargement/reduction ratio becomes lower  
in a direction from said nearby area of the vehicle to said  
peripheral area of the vehicle in said synthesized image.

5 4. The monitoring system of Claim 2,  
wherein said image processing unit generates said  
synthesized image in such a manner that an area along a side  
surface of the vehicle has linearity.

10 5. The monitoring system of Claim 2,  
wherein at least one camera out of said one or more  
cameras is installed to have a camera range at least  
including part of a body side surface and part of a front  
tire, and

15 said image processing unit generates, from a camera  
image of said at least one camera, said synthesized image in  
such a manner that said body side surface and said front tire  
are imaged therein.

20 6. A monitoring system comprising:  
one or more cameras for capturing surrounding state of  
a vehicle; and

an image processing unit for receiving, as an input, a  
camera image of said one or more cameras and generating a  
synthesized image from said camera image to be displayed on a  
display device,

25 wherein at least one camera out of said one or more

cameras is installed to have a camera range at least including part of a tire of the vehicle, and

5 said image processing unit generates, from a camera image of said at least one camera, said synthesized image in such a manner that said tire is imaged therein.

7. A monitoring system comprising:

one or more cameras for capturing surrounding state of a vehicle; and

10 an image processing unit for receiving, as an input, a camera image of said one or more cameras and generating a virtual viewpoint image viewed from a virtual viewpoint to be displayed on a display device,

15 wherein said image processing unit has a mode for displaying, in parallel to said virtual viewpoint image, an image of a region ahead in a moving direction of the vehicle or in a direction to which the vehicle is able to move with a positional relationship with said virtual viewpoint image kept.

8. A monitoring system comprising:

20 a plurality of cameras for capturing surrounding state of a vehicle; and

an image processing unit for receiving, as an input, camera images of said plurality of cameras and generating, from said camera images, a virtual viewpoint image viewed 25 from a virtual viewpoint to be displayed on a display device,

wherein said plurality of cameras include a first camera and a second camera having overlapping camera ranges, and

5       said image processing unit is able to generate a first virtual viewpoint image that is generated by using said first camera without using said second camera and includes a portion overlapping in the camera range of said first camera with said second camera and a portion not overlapping, and a second virtual viewpoint image that is generated by using 10      said second camera without using said first camera and includes a portion overlapping in the camera range of said second camera with said first camera and a portion not overlapping.

9. The monitoring system of Claim 8,  
15       wherein said image processing unit has a mode for displaying said first and second virtual viewpoint images in parallel on one screen.

10. The monitoring system of Claim 8,  
20       wherein said first virtual viewpoint image is generated by using merely camera images of cameras installed on side portions of the vehicle, and

      said second virtual viewpoint image is generated by using merely camera images of cameras installed on front and rear portions of the vehicle.

25       11. A monitoring system comprising:

a plurality of cameras for capturing surrounding state of a vehicle; and

an image processing unit for receiving, as an input, camera images of said plurality of cameras and generating, 5 from said camera images, a virtual viewpoint image viewed from a virtual viewpoint to be displayed on a display device, wherein said plurality of cameras include at least a first camera for capturing a left rear region of the vehicle and a second camera for capturing a right rear region of the 10 vehicle, and

said image processing unit has a mode for displaying, together with said virtual viewpoint image, at least part of a mirror image of the camera image of said first camera or said second camera.

15 12. A monitoring system comprising:

a plurality of cameras for capturing surrounding state of a vehicle; and

an image processing unit for receiving, as an input, camera images of said plurality of cameras and generating, 20 from said camera images, a virtual viewpoint image viewed from a virtual viewpoint to be displayed on a display device, wherein said image processing unit has a mode for preferentially using a camera image of a camera installed on a side portion of the vehicle in generating said virtual 25 viewpoint image.